Verification of Environmental Monitoring Technologies

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FIRST VERIFICATION STATEMENTS ISSUED BY ADVANCED MONITORING SYSTEMS PILOT

Five vendor companies with air monitoring instruments have received the first verification statements issued by the Advanced Monitoring Systems pilot (AMS), one of 12 pilots in the U.S. Environmental Protection Agency's Environmental Technology Verification Program (EPA/ETV). ETV was established to accelerate the acceptance and use of improved, cost-effective environmental technologies through third-party verification testing of the technology's performance.

The verification statements were issued by EPA's Office of Research and Development following approval of reports containing results of the verification test conducted in January by Battelle, EPA's partner for the AMS pilot.

The instruments tested are commercially available portable emission analyzers that measure nitrogen oxide and nitrogen dioxide (NO/NO_2) from combustion sources, such as combustion turbines, furnaces, stoves, and water heaters. Detection of these emissions is important to environmental protection because NO and NO_2 play a role in the formation of ozone, a key air environmental pollutant. Companies participating in the test and their verified instruments are:

ECOM America Ltd., Duluth, GA–A-Plus Portable Emission Analyzer,

Enerac Division of Energy Efficiency Systems, Inc., Westboro, MA–3000E Portable Emission Analyzer,

Horiba Instruments, Pittsburgh, PA–PG-250 Portable Emission Analyzer,

Testo, Inc., Flanders, NJ–Model 350 Portable Emission Analyzer, and

TSI, Inc., Shoreview, MN–Combucheck Single Gas Monitor.

These analyzers use one of two methods of detection. Four use electrochemical sensors. The Horiba analyzer is a chemiluminescence instrument. The verification test involved both laboratory tests, in which the analyzers were challenged with NO and NO_2 under various test conditions, and source tests, in which each instrument's performance was determined during sampling of natural gas and diesel combustion emissions.

The performance characteristics tested included: linearity, detection limit, response time, zero/span drift, interferences, pressure sensitivity, ambient temperature sensitivity, relative accuracy, and inter-unit repeatability.

All five companies received ETV Verification Statements that confirm the performance of their analyzers under specific, predetermined criteria and appropriate quality assurance procedures. The ETV Verification Statement provides an independent assessment of the technology to local, state, and federal agencies responsible for issuing permits as well as to purchasers of the instruments.

Complete test results for each company are provided in reports posted on the ETV website (http://www.epa.gov/etv). The ETV Verification Statements for the five companies, signed by EPA and Battelle officials, are also available on the website.

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